

FAIL-SAFE THERMAL SENSOR APPARATUS AND METHOD

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a division of prior application Serial No. 09/093,988 filed June 8, 1998^{NOW ABANDONED} which is a continuation of prior application Serial No. 08/660,016, filed June 6, 1996, issued as U.S. Patent No. 5,838,578 on November 17, 1998, which is a continuation of prior application Serial No. 08/124,980, filed September 21, 1993^{ABANDONED}, all entitled "Method and Apparatus for Programmable Thermal Sensor for an Integrated Circuit" and all assigned to the assignee of the present application.

FIELD OF THE INVENTION

The present invention relates to thermal sensing, and more specifically to methods and apparatus for a programmable thermal sensor in an integrated circuit.

ART BACKGROUND

Advances in silicon process technology has lead to the development of increasingly larger die sizes for integrated circuits. The large dies sizes permit integration of millions of transistors on a single die. As die sizes for integrated circuits become larger, the integrated circuits consume more power. In addition, advances in microprocessor computing require execution of a large number of instructions per second. To execute more instructions per second, the microprocessor circuits operate at an increased clock frequency. Therefore, a microprocessor containing over one million transistors may consume over 30 watts of power. With large amounts of power being dissipated, cooling becomes a problem.